

PUBLIC NOTICE

PERMIT APPLICATION: NRS # 05.268

APPLICANT: Kroger Company
1014 Vine Street
Cincinnati, Ohio 45202
513-762-4214

LOCATION: Unnamed tributaries to Bushman Creek, Proposed Kroger Store and Outparcels at the corner of North Rutherford Boulevard and Highway 96, Murfreesboro, Rutherford Co. 35.8797 N, -86.3535 W

WATERSHED DESCRIPTION: This project is located in the Stones River watershed (HUC TN05130203). The affected streams are two unassessed, first-order intermittent tributaries to Bushman Creek (tributaries B and C, figure 1). Bushman Creek is assessed as fully supporting its classified surface water uses. The classified uses for the tributaries to Bushman Creek are fish and aquatic life, recreation, livestock watering and wildlife, and irrigation. The tributaries currently extend a combined length of 1620 linear feet on the property. Both tributaries are channelized, mowed and lack woody riparian zone. The substrate is largely vegetation and silt with bedrock outcrops. The surrounding land use is residential and increasing commercial.

(Photos of the stream are included on the Internet version of this notice at <http://www.state.tn.us/environment/wpc/wpcppo/arap>)

PROJECT DESCRIPTION: The applicant proposes to relocate two existing streams, a total of 1390 linear feet, toward the edge of the property for the purpose of development. The proposed development is a retail store, outparcels and associated parking. The project will impact 1,145 linear feet of tributary B and the total length of the smaller tributary C (245 linear feet). Both channels will be combined into a single relocated channel of 1,122 linear feet (sinuosity of 1.2, designed to carry a mean annual flow of 0.16 cubic feet per second). There will be an additional 415 feet of the relocated channel with open-bottomed road crossings (four separate crossings). The relocated channel will have a larger channel for the safe-passing of flood flows and a base flow channel.

The new channel riparian zone will be planted with 6' – 8' green ash (*Fraxinus pennsylvanica*), black willow (*Salix nigra*) and willow oak (*Quercus phellos*) on 15-foot centers, the random placement of alder (*Alnus serrulata*), sweetshrub (*Calycanthus floridus*), and oak leaf hydrangea (*Hydrangea quercifolia*) at 250 stems an acre, and the side slopes will be planted with a mixture of switch grass (*Panicum nirgatum*) and big blue stem (*Andropogon gerardii*).

In addition, the upstream most 245 linear feet of stream B, which in its altered state currently loses base flow, will be repaired by flowable fill grouting and have a similar riparian planting scheme. The applicant provided a geotechnical report revealing the site is dominated by Ridley Limestone and associated clays. The relocated stream's hydrology and vegetation will be monitored for five years with annual reports submitted to the division.

In accordance with the Tennessee Antidegradation Statement (Rule 1200-4-3-.06), the division has determined that the proposed activity will not result in degradation to water quality.

PERMIT COORDINATOR: Juliana W. Kyzar

USGS TOPOGRAPHIC QUADRANGLE: Dillton Quad (315 SE) and Lascassas Quad (315 NE)



Photo 1: Unnamed tributary (Watercourse B) looking downstream from North Rutherford Blvd.



Photo 2: Unnamed tributary (Watercourse C) looking upstream from the confluence with Watercourse B.

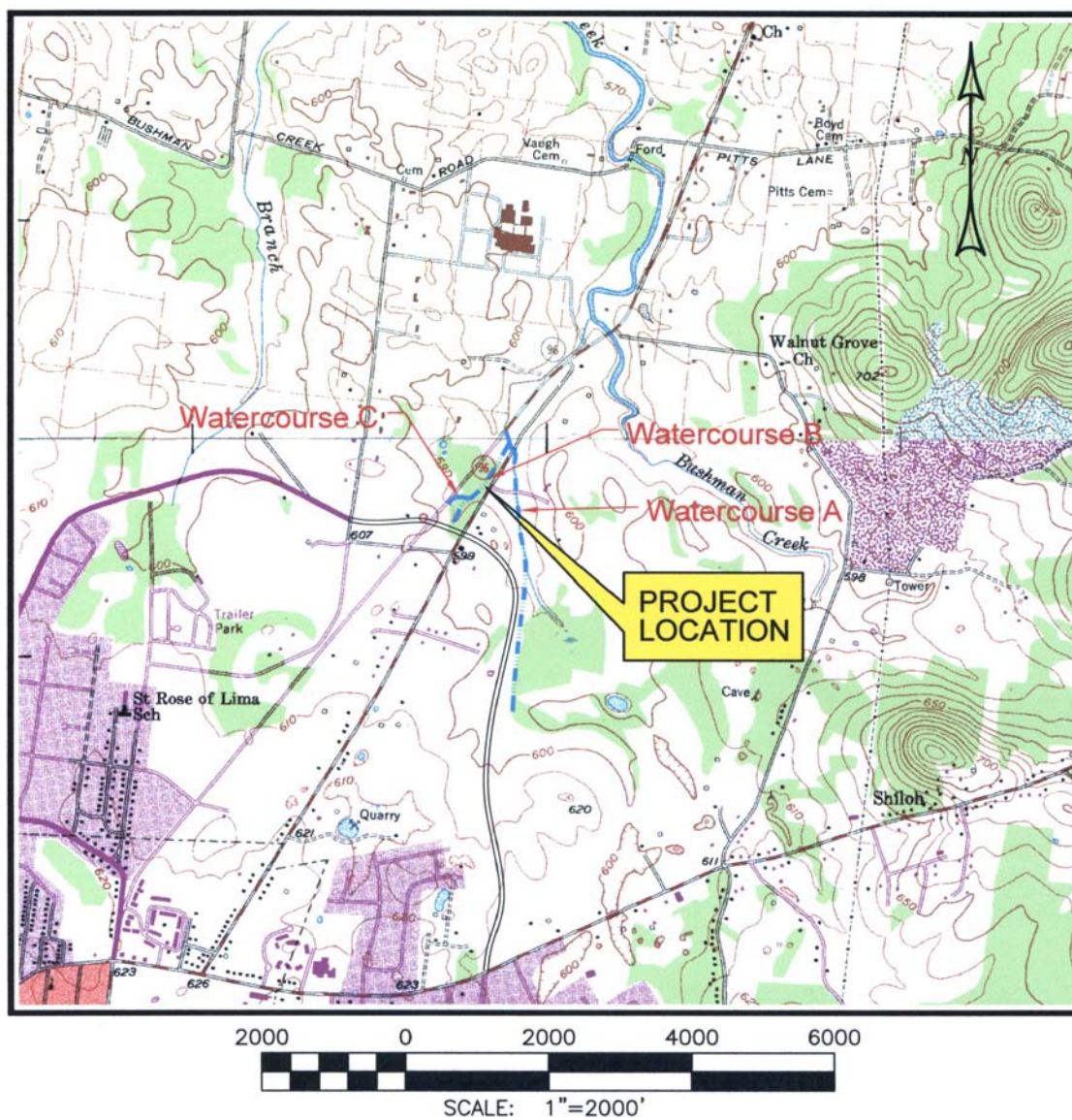


Figure 1: USGS topographic map with project area indicated

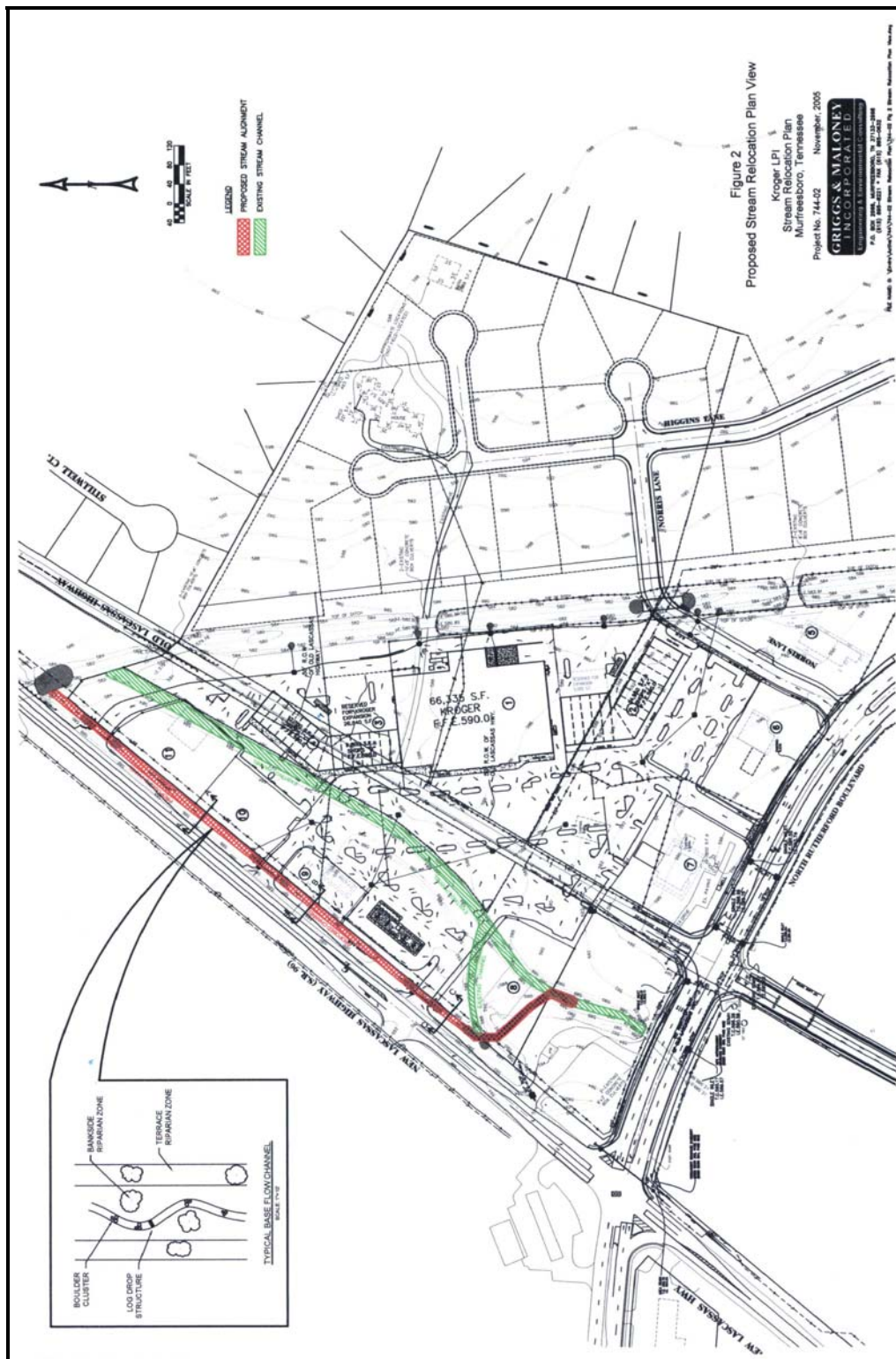


Figure 2: Proposed stream relocation (existing is green, proposed in red)

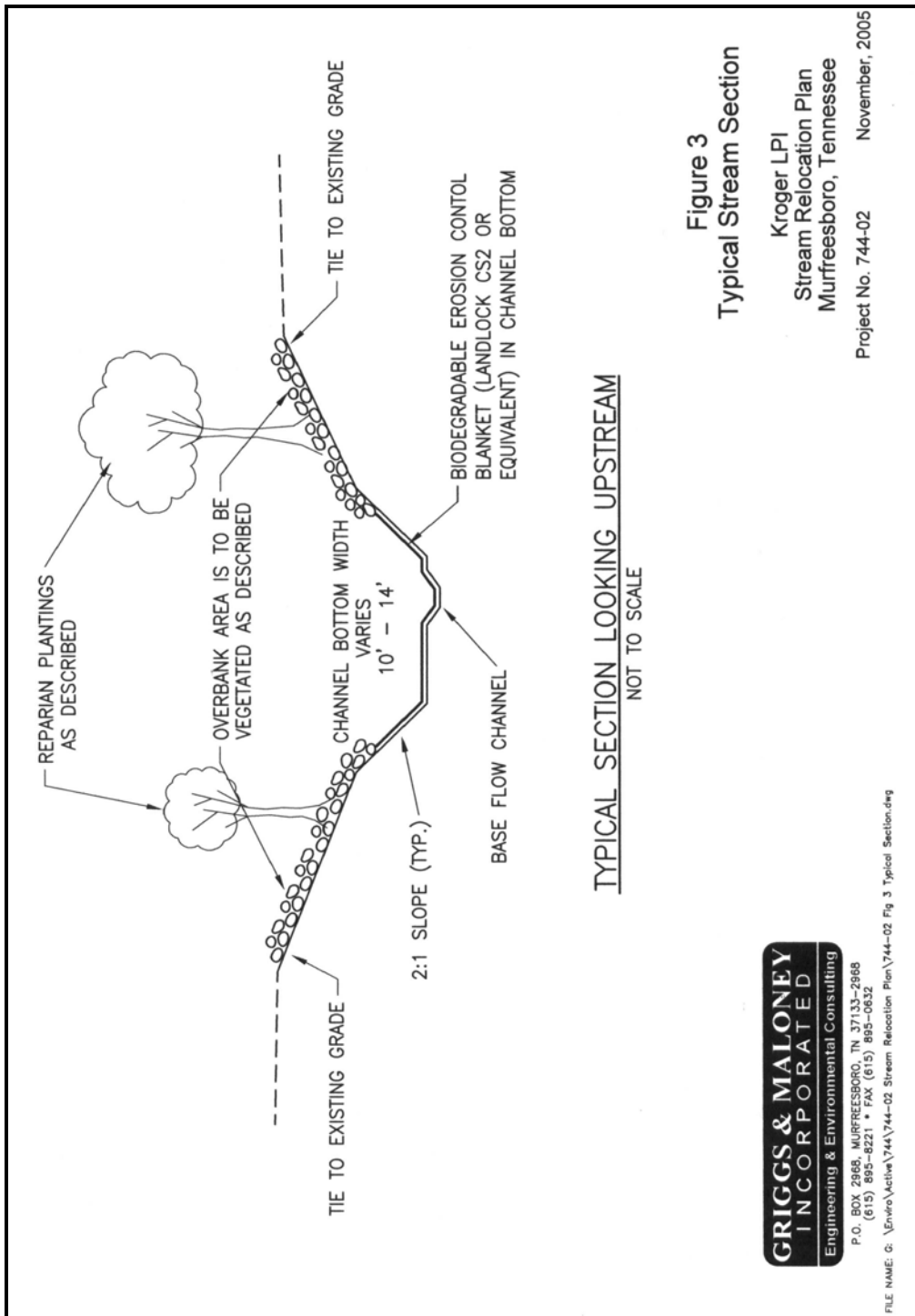
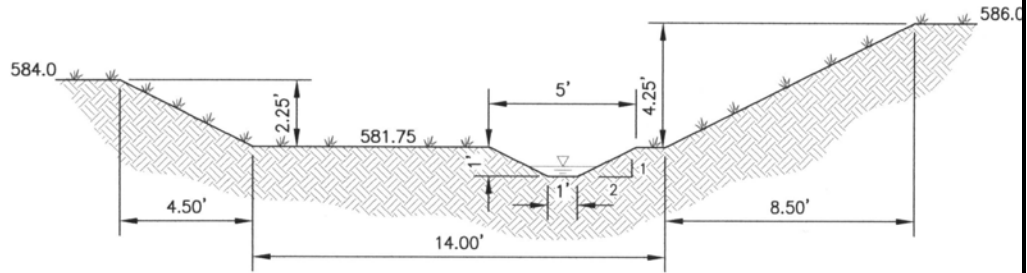
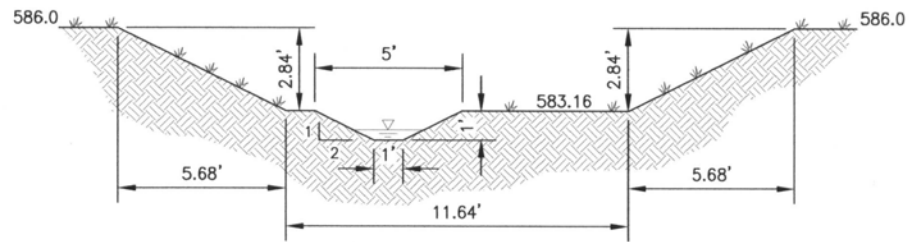


Figure 3: Typical cross sections



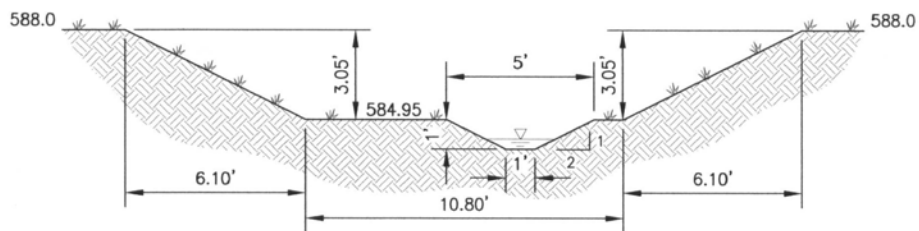
SECTION A-A

SCALE: 1"=5'



SECTION B-B

SCALE: 1"=5'



SECTION C-C

SCALE: 1"=5'

**GRIGGS & MALONEY
INCORPORATED**
Engineering & Environmental Consulting

P.O. BOX 2968, MURFREESBORO, TN 37133-2968
(615) 895-8221 * FAX (615) 895-0632

FILE NAME: G:\Enviro\Active\744\744-02 Fig 4 Channel X Sections Rev 11-21-05.dwg

**Figure 4
Proposed Channel Cross-Sections**

Unnamed Tributary to Bushman Creek
Kroger LPI
Stream Relocation Plan
Murfreesboro, Tennessee

Project No. 744-02 November, 2005

Figure 4: Proposed channel cross sections

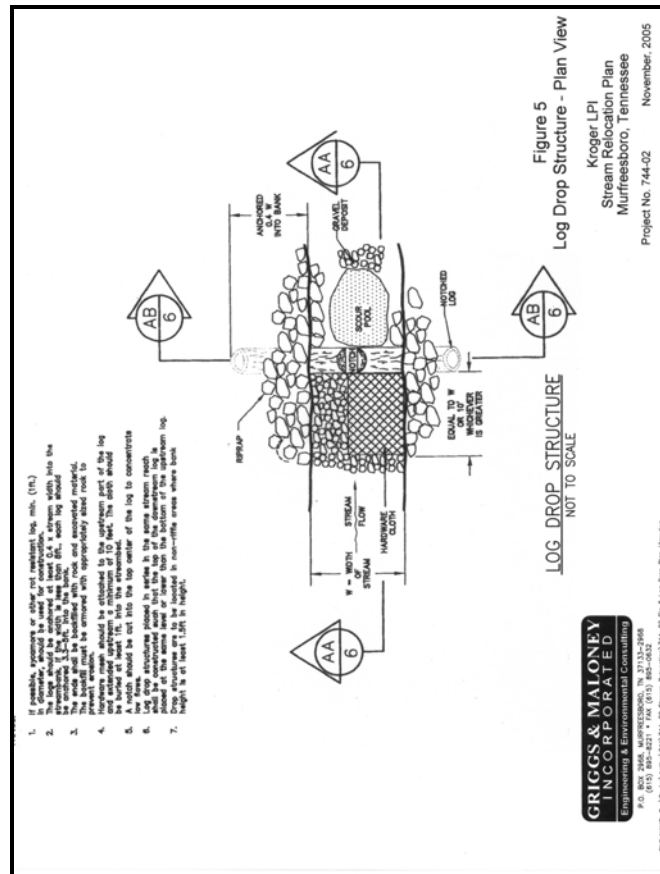


Figure 5: Proposed instream structure

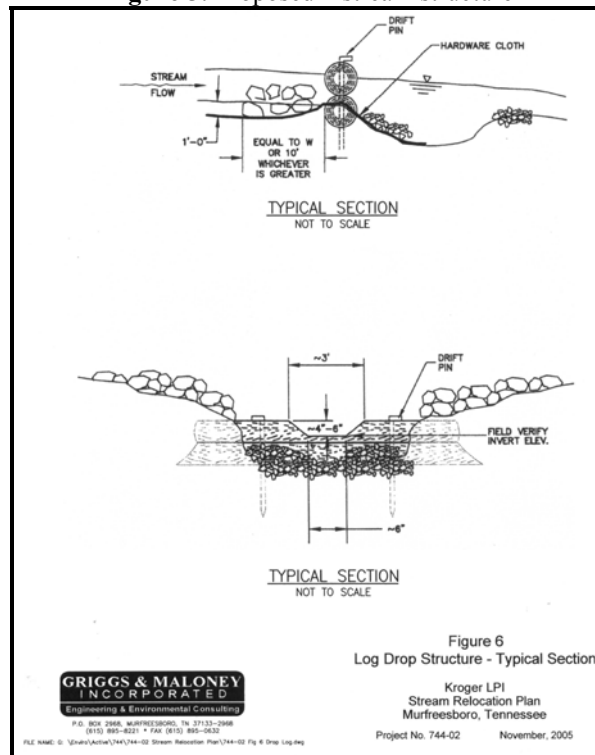


Figure 6: Proposed instream structure

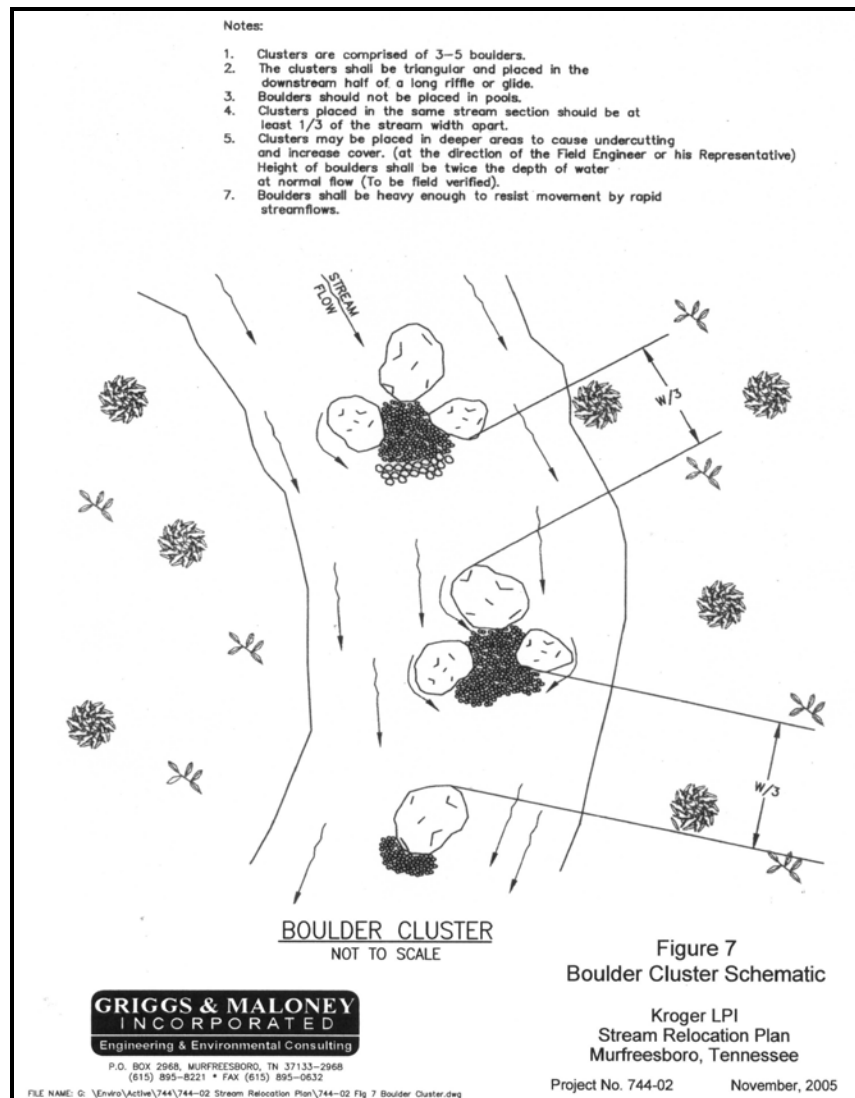


Figure 7: Proposed instream structure

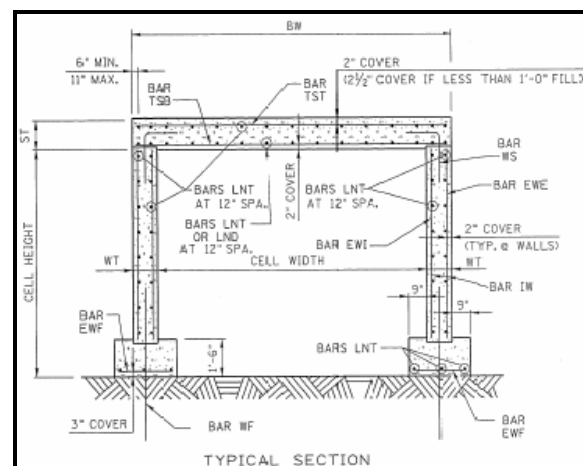


Figure 8: Typical span bridge detail